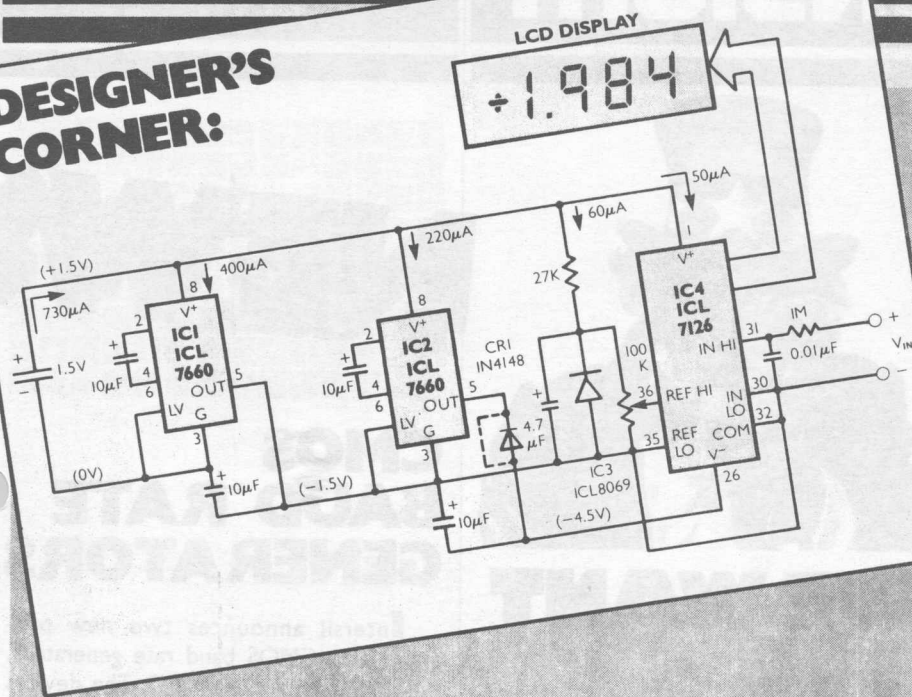


## DESIGNER'S CORNER:



## SINGLE 1.5 VOLT BATTERY DRIVES A/D CONVERTER WITH AID OF CMOS VOLTAGE CONVERTERS

A single 1.5 volt battery is all that is needed to operate a 3½ digit micropower A/D converter when two ICL7660 voltage converters are used to quadruple the voltage. IC<sub>1</sub> and IC<sub>2</sub> act as voltage doublers transforming the single cell battery voltage into a usable 6 volts.

With +1.5V applied to the input at the first converter, a negative 1.5 volts will be seen at the output, with respect to the negative terminal of the battery. The second converter, IC<sub>2</sub>, sees the total voltage across IC<sub>1</sub> at its inputs, and produces -3 volts with respect to the output of IC<sub>1</sub>.

The total voltage across IC<sub>2</sub> is four times the battery voltage and is sufficient to power the ICL7126 A/D converter and an ICL8069 voltage reference. The voltage reference is necessary because the internal reference of the ICL7126 works best when there is over 6.5 volts across its power terminals. The external 1.2 volt reference insures that the A/D will operate even if the battery voltage is low.

The battery current for this circuit is less than 3/4 mA typically and battery voltage up to 3.5 volts may be used. CR<sub>1</sub> should be used only if the battery voltage is greater than 3 volts.

## CMOS 8K EPROMs

DRAW ONLY 100 µA

Our new IM6657 (2K x 4) and IM6658 (1K x 8) CMOS 8K EPROMs should be your 8-bit microprocessors' best friends. These high-density devices draw only 100µA standby current...they're hands-down winners where low power consumption is a prime design goal.

What's more, 450ns access time of these UV-erasable PROMs match the speed of their NMOS equivalents, yet the IM6657/8 EPROMs require only 1/6 the active power levels of the NMOS parts. That means longer life in battery-driven circuits and longer operating life. Need a military version? Specify the IM6657/58M.

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